SABE

(Society for Automation in Business Education)

DATA PROCESSOR

FOR BETTER BUSINESS EDUCATION

Vol. 1 No. 1 January 1961

With this first issue of the SABE DATA PROCESSOR a new contribution to Business Education is born. The purpose of the Society for Automation in Business Education, according to our Constitution, is: "To promote the growth and development of knowledge and understanding of automation among business teachers and other interested parties." We have three objectives:

1. The uniting of business teachers, educators, businessmen, and other interested parties in order to promote the purpose of this organization.

2. The providing of opportunity for interchange of fact and opinion, concerning automation, among the membership.

3. The encouragement of the membership to promote the purpose of the organization by all suitable means.

Publication of the SABE DATA PROCESSOR will provide a cohesive membership with a forum for the interchange of fact and opinion concerning automation.

SABE Is YOUR Business

You can do <u>your</u> part by doing the following things:

1. Organizing discussions on automation in the name of SABE.
2. Sending in data and ideas to be included in the DATA PROCESSOR.
3. Sending in the names of your colleagues (and others) who should belong to SABE and help carry on its work. (Form provided for this purpose in this issue).
4. Trying to get other professional business organizations to consider the problem of automation at their meetings.
5. Using the ideas you have about automation in the work <u>you</u> are doing--be that teaching, business, industry, government, or what.

These things can't wait until tomorrow to be done. They must be done today if workers tomorrow are going to make intelligent use of the contributions of automation and compete successfully with world-wide competition. Use the above list as a checklist <u>each</u> <u>month</u>. Let the Editors of DATA PROCESSOR know what you do about them and how you went about doing it.

Worth Reading

Books

James D. Fahnestock, COMPUTERS AND HOW THEY WORK. Ziff-Davis Publishing Company, New York, 1959, $4.95.

Robert H. Gregory and Richard L. Van Horn, AUTOMATIC DATA PROCESSING SYSTEMS. Wadsworth Publishing Co., Inc., San Francisco 11, California, 1960, $12.52 Net to Educators.

Magazines

Francis Bellow, "How to Cope with Information." FORTUNE, :162, September 1960.

Robert F. Rosin, "An Introductory Problem in Symbol Manipulation for the Student." COMMUNICATIONS OF THE ACM, 3:488, September 1960. (Published by Association for Computing Machinery, 14 East 69th St., New York 21, N.Y.).

Roy F. Reeves, "Digital Computers in Universities," COMMUNICATIONS OF THE ACM, 3:406, July 1960; 3:476, August 1960; 3:513, September 1960; 3:544, October 1960.

Other References

E. E. David, Jr., ARTIFICIAL AUDITORY RECOGNITION IN TELEPHONY, Monograph 3141, and "Voice-Actuated Machines: Problems and Possibilities" BELL LABORATORIES RECORD, 35:281, August 1957. (For copies write Josephine Doty, Publication Department, Bell Telephone Laboratories, 463 West St., New York 14, N.Y.).

NOMA Technical Quarterlies, SYSTEMS & PROCEDURES - DATA PROCESSING, No. 1, National Office Management Association, Willow Grove, Pa., 1960.

Ideas Worth Checking

Can a machine think? This question is worth thinking about. Do not jump to a conclusion. "The Thinking Machine," a recent telecast in the TOMORROW science series, took up this question. There is evidence tending to support the idea that human beings and other animals are programmed in much the same way that computers are programmed. For other discussion of this question refer to recent issues of COMPUTERS AND AUTOMATION, e.g., May 1960 issue, p. 19. COMPUTERS AND AUTOMATION is published by Berkeley Enterprises, Inc., 815 Washington St., Newtonville 60, Mass., $7.50 year.

Meetings Worth Attending

The 1960 Eastern Joint Computer Conference will be held December 13-15 at the Hotel New Yorker and the Manhattan Center in New York City. This tenth Eastern Joint meeting will stress papers describing significant and interesting accomplishments in the field.

What Others Are Doing

This column is for members to tell other members about what they are doing in the area of data processing; the idea behind this column is to show members what others have tried with what results and how they went about doing it, so that members can try their own wings. Contributions are expected from members.

New Ideas

In the end it is new ideas that count. Members of SABE may have ideas or their friends may have ideas they can pass on. These should be sent in for publication in this column. If the idea is someone else's, it should be approved for publication by that person and in writing so no lawsuits descend upon SABE. If it is taken from some printed source, the complete citation should be given so that it can be contacted for permission to reprint if necessary.

Working Group for Better Education. The purpose of the WGBE is to help persons interested in better education to find each other, to know each other, to know what other people have done, and to work efficiently together on projects related to better education. For more information write to Edmund C. Berkeley, Chairman, Association for Computing Machinery Secondary Education Committee, and Acting Secretary, Working Group for Better Education, 815 Washington Street, Newtonville 60, Massachusetts. Mr. Berkeley is highly interested in the contributions that automation can make in education.

Automation Research

This column will endeavor to cite every single thesis and dissertation that it finds out about. Your help in reporting such unpublished research will be appreciated. Such activity will constitute one of SABE's most important contribution to business education.

John D. Conner, A JOB ACTIVITY ANALYSIS OF THE DUTIES OF SECRETARIES EMPLOYED IN THE ELECTRONICS INDUSTRY AND A STUDY OF THE IMPORTANCE OF TECHNICAL TERMINOLOGY. M.Ed., Boston University, Boston, Mass., 1959

M. Lloyd Edwards, THE EFFECT OF AUTOMATION ON ACCOUNTING JOBS. Ed.D., University of Oklahoma, Norman, Oklahoma, 1959.

Edward J. Laurie, APPLICATIONS OF DOMESTIC DIGITAL COMPUTING SYSTEMS IN BUSINESS AND SCHOOLS OF BUSINESS IN THE UNITED STATES. Ed.D., University of California, Los Angeles, 1959.

Leo Niemi, ELECTRONIC DATA PROCESSING AND ITS IMPLICATIONS FOR THE COLLEGIATE BUSINESS CURRICULUM. Ph.D., The Ohio State University, Columbus, Ohio, 1959.

Loren E. Waltz, A STUDY OF DATA PROCESSING IN SPECIFIED RETAIL AND WHOLESALE FIRMS. DBA, Indiana University, Bloomington, Ind., 1959.

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For Teachers Only

1. The Meaning of Systems

1. The modern business must systematize or die, particularly as it automates.

2. Meaning of Systems -- A planned method of obtaining the objectives of a business.

   a. Systems analysis
   b. Charting
   c. Making a time and motion study
   d. Studying work flow and layout
   e. The design and control of forms

3. Case Study-- Magazine Subscription Operation (Taken from Fairbanks SUCCESSFUL OFFICE AUTOMATION, pp. 97ff.)

A major magazine publisher faced a particular problem a few years ago; a very high percentage of the publication's clerical work was being handled manually...

Outside consultants were called in to determine what, if anything, could be done to simplify and straighten clerical operations.

Following the principle of attacking the worst spots first in systems planning, they made list maintenance (the most expensive clerical area in the whole organization, as with most ublishers) one of their first objectives.

The difficulty in the subscription list area lay in the fact that a magazine's subscription list must be used for a variety of purposes. Its first use, of course, is to address the copies of the magazine going to subscribers. But in any given month, a considerable portion of those subscribers have subscriptions that are due to expire within a few months. The publisher wants to reach those subscribers with a plea for renewal. So at any given time a portion of the basic list must be used for the mailing of expiration notices.

And the problem is complicated further by the fact that publishers send increasingly urgent letters to subscribers as the actual expiration date moves nearer. Thus, it is not only necessary to separate readers whose subscription expires within a few months from the main list for mailing of renewal notices; it is necessary also to distinguish between those who have three months to run, those who have two, and so on.

* * * *

The first step was to determine with the publisher the results to be accomplished with the basic list. These were:

1. Mail the magazine each month to the subscriber.
2. Inform the subscriber, before expiration, that he must renew his subscription or be dropped from the list.
3. Maintain the list up-to-date, which required that individual names must be easily located for changes of address, replies to inquiries, and other purposes.
4. Use the list, or parts of it, for promotional mailings.
5. Have the list in a form that would permit it to furnish the tremendous amount of statistics needed by management.

Actually, then, according to the listed objectives, the basic list had to meet several needs. This requirement seemed to call for differing methods of keeping the list. It would have been possible to maintain the subscription stencil plates in alphabetical order within date groups, so that, in any given month, the readers

The Learning Unit

1. The Meaning of Systems

1. The modern business must systematize or die, particularly as it automates.

2. Premise of Systems -- A planned method of realizing the objectives of a business.

a. Systems analysis
b. Charting
c. Design & flow and routine study
d. Forecasting work flow and layout
e. The design and control of forms

3. Case Study -- Manning Engineering Corporation (Form Purchase Procedure)
(Forms Attached, pg. 7ff.)

A major engineering problem faced a particular problem a few years ago: a very high percentage of the engineering- electrical work was being handled manually...

Outside consultants were called in to determine what, if anything, could be done to simplify and streamline clerical operations.

Following the principle of attacking the worst cases first to achieve planning, they made first realignments the most expensive clerical area in the whole organization, as with most, multiformity was of first, first importance.

The difficulty in the engineering line area lay in the fact that a engineer's manuscripts that must be used for a variety of purposes. The first was, of course, to release the design of the engineering drawings to manufacture. But in so doing would, a considerable portion of these design items have prescriptions that are due to expire within a few months. The engineer needs forward these manufacture with a plan for renewal. So at the same time a portion of the basic list must be used for the writing of replacement drawings.

And the problem is complicated further by the fact that obsolete and inoperable parts have to be removed as the normal expiration date moves nearer. Thus, it is not only necessary to maintain a working three subscription expiration a few months from the date list for mailing of renewal notices, it is necessary also to distinguish between those who have moved to new, those who have not, and so on.

The first step was to determine with the minimum the results to be accomplished with the basic list. These were:

1. Hold the expense each month to the minimum.
2. Insure the accuracy, before expiration, that is most nearly up-to-date.
3. Maintain the list up-to-date, while requiring that individual names must be readily located for changes of address, replies to inquiries, and other purposes.
4. Use the list, or parts of it, for promotional mailings.
5. Have the list in a form that would permit it to furnish the investment amount of punching needed in management.

Initially, then, according to the listed objectives, the basic list had to meet several needs. This requirement seems to call for different methods of keeping the list. It would have been possible to maintain [illegible] plastic plates in alphabetical order within date groups, so that, in any given month, the readers

whose subscriptions were due to expire within a given period could be conveniently separated from the majority. But that would have complicated the mailing of the magazines themselves, since the post office requires second class mailings to be mailed by a geographic breakdown.

So for its primary purpose, the mailing of copies, the list had to be maintained by a geographical breakdown. Subscribers' plates were arranged alphabetically within each geographic area, so that changes of address for individual subscribers or inquiries from them could be handled promptly.

What could be done to simplify the publisher's problem? He had one basic list in the form of subscription stencil plates. That list had to serve a variety of purposes. Those purposes demanded that the list be arranged according to different categories of information.

Applying the "If this could be done approach" gave rise to a new concept. Suppose it were possible to use the main list for its primary purpose only, mailing of the monthly copies of the magazine to subscribers, and depend on the products of that list rather than the list itself for all subsidiary purposes. That might solve the problem.

That was the concept. It was a totally new approach to carrying out a function essential in every magazine publishing operation, and, to a certain degree, in every basic mailing list operation. Could the concept be accomplished?

The consultant devised a plan by which he thought it could. The plan itself encompassed several entirely new principles in list operation. Among these were:

1. A single list or file of addressing media.
2. A method of changing or extending renewal media at the stencil files
3. A method of printing expiration promotion by a single periodic run of the one list of stencils.
4. A method of separating simple from complex work.
5. A flexible method of obtaining statistics at machine speeds.
6. Adoption of mechanical office tools throughout the entire fulfilment operation.

Stencil plates by their very nature reproduce a legible name and address. Stencil plates can be mechanically identified according to expiration dates coded into the plates. Other information can be similarly coded into the basic plate.

And the equipment is available that will sense the coded information in a stencil plate and transfer that information in the form of a punched hole code into a punched card.

* * *

All stencil plates in the subscription list were used each month to address magazines in the regular fashion. Before return to file, they were immediately run through an adjoining machine that identified those stencils with an expiration date falling within the next three months, and reproduce-punched the information on those particular stencils into tabulating cards. The particular stencils identified also printed the reader's name and address on the tabulating card.

This completed the operation, at machine speeds, all stencils, still in their regular geographical-alphabetical order, were returned to file.

Now the consultant had, for purposes of the renewal effort, punched cards that carried the reader's name and address in legible form, and carrying the exact date of his subscription expiration in the form of a punched code. These cards were run through sorters, which automatically separated into groups all readers whose expiration fell in the same month.

The consultant had in two mechanical steps achieved everything for the purposes of subscription renewal solicitation that had been accomplished by the laborious, costly, and inefficient creation and maintenance of a variety of sub-lists separate from the main list.

The rest of the operation was simple. Since the punched cards now fell into groups already divided by expiration months, the publisher could either print different solicitation messages on each group of cards, or enclose different letters urging renewal in varying degrees of urgency with each batch. Window envelopes permitted the reader's name and address appearing on the card to serve the addressing function. Mechanical stuffing and sealing made even this last step a machine operation.

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Members are cordially invited to submit contributions for publication. Mail all communications concerning the DATA PROCESSOR to:

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All other communications should be addressed to Dr. Gibson whose address is given above.

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